

## **CO2 Abatement Editorial:**

# **Green Star States: U.S. Industry Gets Serious About Cutting CO2 Emissions**

**SAN DIEGO, CALIF. – (Business Wire) December 20, 2007** – Green Star Products, Inc. (OTC: GSPI) announced today that its Algae-to-Biodiesel program has attracted companies that need less expensive CO2 sequestration. Algae growth needs only sunlight, non-potable water (salt, briny or wastewater) and CO2, which is the major global warming gas.

One tank full of gasoline in your car emits over 200 pounds of CO2 to the atmosphere.

Algae eat CO2; convert it to oil, proteins, carbohydrates and other useful products; and, emit only oxygen to our atmosphere.

Several major companies have contacted GSPI in hope of converting their stack emissions into usable products.

The present industry plan (theoretically) is to install miles of large pipes to deliver the stack emissions to a place where it will be pumped under high pressure into the earth. This plan needs a suitable deposition cavity in the earth to properly confine the CO2 in its liquid form. Either deep oil wells or other deep saline water deposits will suffice. Billions of dollars will be spent building pipelines for stack emissions transportation and compression stations to compress the gas to liquid form and pump it deep into the earth. All of this takes a lot of energy to operate and also contributes to global warming in the process.

This is like pouring money down an endless hole.

Industry is beginning to wake up to the fact that there may be another solution that can actually turn a profit from this CO2 "waste product": Algae-to-biodiesel.

Algae farms are glutton eaters of CO2 gas and produce 100 times more oil per acre than traditional oil crops (such as soy oil), which can be converted to biodiesel. Algae can also produce high-grade animal feed (35–40% protein).

Mr. Joseph LaStella, president of GSPI, stated, "I am absolutely surprised at the amount of emails and phone calls I get from senior corporate executives, who simply say 'it's too good to be true'." (i.e. true that algae can really do all that)

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Mr. LaStella has decided to put this "it's too good to be true" statement to bed once and for all. A 17-year algae study (1978-1995) was funded by the U.S. Department of Energy (DOE) and administered by the National Renewable Energy Laboratory (NREL) to investigate algae as a source of fuel and its ability to consume CO<sub>2</sub>. Twelve universities participated in the research program, which studied 3,000 strains of algae. Mr. LaStella has studied this program since 1995 and has taken the time to accumulate the many conclusions distributed throughout the voluminous report. These conclusions, when read together, will impress the most negative skeptics.

The program's conclusions are as follow:

- Consumption of coal, an abundant domestic fuel source for electricity generation, will continue to grow over the coming decades both in the U.S. and abroad.
- Algae technology can extend the useful energy we get from coal combustion and reduce carbon emissions by recycling waste CO<sub>2</sub> from power plants into clean-burning biodiesel. When compared to the extreme measures proposed for disposing of power plant carbon emissions, algal recycling of carbon simply makes sense. In a world of ever more limited natural resources, algae technology offers the opportunity to utilize land and water resources that are today unsuited for any other use. Land use needs for microalgae complement, rather than compete, with other biomass-based fuel technologies.
- Human beings are carrying out a large-scale geophysical experiment of a kind that could not have happened in the past nor be produced in the future. Within a few centuries, we are returning to the atmosphere and the oceans the concentrated organic carbon stored in sedimentary rocks over hundreds of millions of years.
- The burning of fossil fuels is the major source of the current build up of atmospheric CO<sub>2</sub>. Thus, identifying alternatives to fossil fuels must be a key strategy in reducing greenhouse gas emissions. While no one single fuel can substitute for fossil fuels in all of the energy sectors, we believe that biodiesel made from algal oils is a fuel which can make a major contribution to the reduction of CO<sub>2</sub> generated by power plants and commercial diesel engines.
- High oil-producing algae can be used to produce biodiesel, a chemically modified natural oil that is emerging as an exciting new option for diesel engines. At the same time, algae technology provides a means for recycling waste carbon from fossil fuel combustion. Algal biodiesel is one of the only avenues available for high-volume re-use of CO<sub>2</sub> generated in power plants. It is a technology that marries the potential

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need for carbon disposal in the electric utility industry with the need for clean-burning alternatives to petroleum in the transportation sector.

- The program envisioned vast arrays of algae ponds covering acres of land analogous to traditional farming. Such large farms would be located adjacent to power plants. The bubbling of flue gas from a power plant into these ponds provides a system for recycling of waste CO<sub>2</sub> from the burning of fossil fuels.
- Put quite simply, microalgae are remarkable and efficient biological factories capable of taking a waste (zero-energy) form of carbon (CO<sub>2</sub>) and converting it into a high-density liquid form of energy (natural oil). This ability has been the foundation of the research program funded by the Office of Fuels Development.
- Land, water and CO<sub>2</sub> resources can support substantial biodiesel production and CO<sub>2</sub> savings.
- It is possible to sequester as much as 1,000,000,000 (one billion) tons of CO<sub>2</sub> per year from algae farms in lands not useful for any other purpose in the Southwestern portion of the U.S. alone.

In summary — Does anyone believe that the country that conquered the moon cannot raise algae?

The power and cement industries along with the Governors of several States were the first to address CO<sub>2</sub> reductions and sequestration. They should be congratulated.

More recently two major milestones have been reached: The U.S. Congress has passed a huge energy bill and President Bush signed it into law on December 19th, 2007. This is a real Christmas present to our Country.

The bill essentially will increase the efficiency of many items, better mileage cars, efficient light bulbs and billions of dollars to produce ethanol from non-food sources (cellulose ethanol).

Secondly, at the international Kyoto Treaty (or Global Warming) summit held in Bali, Indonesia. Mrs. Paula Dobriansky, under secretary of state for democracy and global affairs leading the U.S. delegation, was under great pressure from Kyoto members to commit the U.S. to support future reductions in global warming gases. Mrs. Dobriansky said, "We will go forward and join consensus," in relation to a deal to launch two years of talks on a new global treaty to succeed the Kyoto Protocol. Kyoto delegates hailed the U.S. reversal.

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Mrs. Dobriansky should be congratulated because she had the fortitude to make this decision on her own judgment.

Mr. LaStella has long written editorials supporting cellulosic ethanol and algae biodiesel as the only long-term answer to the U.S. fuel problems and global warming issues (see press release dated Nov. 9, 2007 titled "GSPI States: Some Biofuels Add Significant Food to Your Table" and also see press releases dated May 15 and June 28, 2006).

Mr. LaStella believes that GSPI is on the cutting edge of both these technologies through its R&D programs over the past 10 years and has waited a long time for these events to happen.

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